NOAA Research in New Hampshire

NH-1 and 2 (Statewide)

Climate and Global Change Program

NOAA is responsible for providing climate information to the nation in order to prepare and protect climate sensitive sectors of society and the economy. To carry out this mission, NOAA's Climate and Global Change Program conducts focused scientific research to understand and predict variations of climate. The Program is comprised of a number of research elements, each focusing on a specific aspect of climate variability. Taken together, this research contributes to improved predictions and assessments of the effects of climate variability and change on different environments over a continuum of time scales from season to season, year to year, and over the course of a decade and beyond. This research is accomplished through the strong support of the academic and private sectors, as well as NOAA and other federal laboratories. In FY 2001, NOAA's Climate and Global Change Program provided approximately $130,500 in support of climate research in the State of New Hampshire. For more information please visit http://www.ogp.noaa.gov

NH-1 and 2 (Statewide)

Air Resources Laboratory
Meteorological and Air Quality Models

NOAA's Air Resources Laboratory (ARL) is working with the State of New Hampshire to determine the sources of atmospheric pollutants and their ecological impacts in New Hampshire. ARL has developed high-resolution meteorological and air quality simulations that incorporate the complex New Hampshire topography to help assess the contribution of pollution from sources outside the state boundary (e.g., the Ohio Valley and Montreal, Canada). The modeling study will also help identify local ecosystems which may be particularly vulnerable to air pollution. The simulations have been run twice a day at ARL in near real-time since July 1999. The results are linked to the NOAA transport and dispersion model via the ARL READY web page for further analysis by New Hampshire air quality agencies. For more information please visit http://www.arl.noaa.gov/ready/

NH-1 (Bartlett)

Forecast Systems Laboratory
GPS Meteorological Observing System

NOAA's Forecast Systems Laboratory (FSL) operates a rapidly expanding network of GPS Meteorological (GPS-Met) Observing Systems to monitor the total quantity of precipitable water vapor in the atmosphere. Currently, there are 93 systems over the contiguous 48 states and Alaska, and plans are being made to extend these observations to Hawaii, Puerto Rico, the Caribbean Islands, and Central America. Water vapor is an important but under-observed component of the atmosphere that plays a major role in severe weather events and the global climate system. GPS-Met systems

provide accurate water vapor measurements under all weather conditions, including thick cloud cover and precipitation, and do so at very low cost. The network is being developed by FSL in cooperation with federal, state and local government agencies, universities, and the private sector. The GPS stations provide high-accuracy surveying and navigation services for National defense, automated agriculture, safe land and marine transportation, government infrastructure management, and 911 emergency response services. Fortuitously, these systems can also be used for meteorology with the addition of surface weather sensors. A GPS-Met system is operated by NOAA and the Mt. Washington Observatory near Bartlett. A system to be operated by Plymouth State College is planned for 2002. For more information please visit http://www.gpsmet.noaa.gov/jsp/index.jsp

NH-1 (coastal waters)

National Undersea Research Program
National Undersea Research Center for the Northeastern United States and Great Lakes

The National Undersea Research Center for the Northeastern United States and Great Lakes is located at the University of Connecticut, Avery Point in Groton, Connecticut. It is one of six regional centers supported by the National Undersea Research Program. The Center supports and conducts research in the waters off the northeast coast of the United States and in the Great Lakes. The center provides science and operational support (occupied submersibles, remotely operated vehicles and mixed gas diving technologies) and funding for reviewed projects within this region. The Center supports research on the physical, chemical, and biological factors controlling the cycling and fates of organic contaminants and heavy metals at the sediment/water interface and their ultimate impacts on biological productivity. Also receiving special attention are the habitat characteristics controlling the recruitment and population dynamics of recreational and commercial species of fish, including "pest" species. FY 2001 funding for the Center totaled $1.36 million. For more information please visit http://www.nurc.uconn.edu

NH-1 (Based in Durham - serves entire New Hampshire coast)

National Sea Grant College Program
New Hampshire Sea Grant Program

The New Hampshire Sea Grant Program, part of the National Sea Grant College Program, is a program of research, education, and extension services that works to promote the wise use of marine resources. Current research programs are targeting the scientific basis and socioeconomic context for the management and development of living marine resources, along with the production technologies and aquaculture used in this management. The program also focuses on the coastal engineering and ecosystem processes that are involved in coastal development. The public, industry, and policy makers are kept informed on issues related to commercial fisheries and aquaculture, coastal resource development, and marine science education through Sea Grant's extension programs, news releases, publications, videos, and the Program website. In FY 2001, New Hampshire Sea Grant projects received almost $1 million from the National Sea Grant College Program and $2.2 million in federal pass through funding. The University of New Hampshire was the primary New Hampshire institution that received research funding in FY 2001. For more information please visit http://www.seagrant.unh.edu

NH-1 (Durham)

Climate Observations and Services Initiative
Climate Reference Network

The U.S. Climate Reference Network (CRN) is a network of new climate stations now being developed as part of NOAA's Climate Observations and Services Initiative. The Air Resources Laboratory's Atmospheric Turbulence and Diffusion Division in Oak Ridge, Tennessee, is heavily involved with the development, deployment, and maintenance of the network. The primary goal of the CRN is to provide long-term high-quality climate observations and records of surface air temperature and precipitation with minimal time-dependent biases affecting the interpretation of decadal to centennial climate variability and change. The CRN will provide the Nation with a first-class long-term (50-100 years) observing network that will serve as the Nation's benchmark Climate Reference Network. The CRN will also provide the United States with a network that meets the requirements of the international Global Climate Observing System. Data from the CRN will be used in climate monitoring activities and for placing current anomalies into historical perspective. Data will also be used to provide the best possible information about long-term changes in surface air temperature and precipitation, including means and extremes. CRN sites are currently deployed near Durham, as well as in North Carolina, Nebraska, Montana, Oklahoma, Rhode Island, Illinois, and Tennessee. Within the next 5 years there will be a total of 250 stations spread throughout the United States. For more information please visit http://lwf.ncdc.noaa.gov/

NH-1 (Durham)

Aeronomy Laboratory and Forecast Systems Laboratory
Atmospheric Investigation, Regional Modeling, Analysis, and Prediction

AIRMAP (Atmospheric Investigation, Regional Modeling, Analysis, and Prediction) is a NOAA-funded research project focusing on air quality, weather, and climate related issues in New England. AIRMAP involves researchers from NOAA and from several New Hampshire institutions (The Climate Change Research Center at the University of New Hampshire; Plymouth State College; Mount Washington Observatory; and the New Hampshire Department of Environmental Services). It has established one of the country's most comprehensive air quality monitoring networks. Data from the network are being used to identify the causes of climate variability, predict air quality changes as an addition to daily weather forecasts, and are demonstrating new forecasting technologies. For more information please visit http://airmap.unh.edu

NH-1 (Durham)

Ocean Exploration

In 2001, with a $4 million appropriation from Congress, NOAA launched a systematic, strategic effort through the Office of Ocean Exploration to search and investigate the oceans for the purpose of discovery. Working in partnership with the Alaska Science Center, scientists from the University of New Hampshire used state-of-the-art Klein 5000 side-scan sampling to explore relationships between small-scale geological features during the Next Generation Tools for Exploring Benthic Habitats voyage. For more information please visit http://www.oceanexplorer.noaa.gov